

**ABSTRACT**

A solid-state laser apparatus which can cool a solid-state laser medium such that the solid-state laser medium attains a uniform temperature along the propagating direction of light to be amplified is provided.

In a solid-state laser apparatus 1, a coolant circulating through flow paths 12a, 12b comes into direct contact with a pair of reflecting end faces 5a, 5b of a solid-state laser medium 3, whereby the laser medium 3 heated by pumping light emitted from semiconductor lasers 9 can efficiently be cooled. Since the coolant circulates through the flow paths 12a, 12b in a direction substantially perpendicular to a propagating surface P of light to be amplified L, the solid-state laser medium 3 can be cooled such as to attain a uniform temperature along a propagating direction of the light L. This can lower the thermal lens effect and thermal birefringence effect in the solid-state laser medium 3.